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(54) **MULTIFOCAL ACCOMMODATING  
INTRAOCULAR LENS**

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See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

1,483,509 A 2/1924 Bugbee  
2,129,305 A 9/1938 Feinbloom  
2,274,142 A 2/1942 Houchin  
2,405,989 A 6/1946 Beach  
2,511,517 A 6/1950 Spiegel

2,834,023 A 5/1958 Lieb  
3,004,470 A 10/1961 Ruhle  
3,031,927 A 5/1962 Wesley  
3,034,403 A 5/1962 Neefe  
RE25,286 E 11/1962 DeCarle  
3,210,894 A 10/1965 Bentley et al.  
3,227,507 A 1/1966 Feinbloom

(Continued)

**FOREIGN PATENT DOCUMENTS**

AU 3225789 10/1989

(Continued)

**OTHER PUBLICATIONS**

U.S. Appl. No. 10/280,918, filed Aug. 5, 2003.

(Continued)

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(57) **ABSTRACT**

An intraocular lens for providing accommodative visions to a subject includes an adjustable optic and a haptic that is operably coupled to the optic. The adjustable optic comprises an optical axis, a central zone disposed about the optical axis, and an annular zone surrounding the central zone. The optic may also comprise additional annular zones disposed about the central zone and the first annular zone. The haptic comprises a transparent portion protruding into the adjustable optic. The intraocular lens has a disaccommodative configuration in which the central zone has a base optical power and an accommodative configuration in which the central zone has an add optical power that is at least about 1 Diopter greater than the base optical power, preferably at least about 2 Diopters greater than the base optical power. In some embodiments, the add optical power is at least 3 Diopters, or even 4 Diopters, greater than the base optical power. The central zone and the annular zone have different optical powers when the adjustable intraocular lens is in the accommodative configuration and/or when the adjustable intraocular lens is in the disaccommodative configuration.

**36 Claims, 6 Drawing Sheets**

